

Patent Application
Docket No. 20661-801USD1

In the Claims

1 1. (Amended) A resistor having a resistance that can be adjusted by current being passed
2 there through and which is formed as part of a semiconductor device comprising:

3 a polycrystalline silicon resistor formed of and on a layer, wherein said polysilicon
4 resistor is formed using a doping wherein said doping has a concentration of from $\sim 6 \times 10^{19} \text{ cm}^{-3}$
5 to $\sim [3.75] 1 \times 10^{20} \text{ cm}^{-3}$ and wherein said polycrystalline silicon resistor has at least a first and
6 second order temperature coefficient, wherein the sign of said first and second order temperature
7 coefficients are opposite each other; and

8 wherein said resistor resistance is electronically trimmable within a range from 60% to
9 30 % of original value and

10 further wherein said [doping] dopant consist essentially of Phosphorus. [produces a fine
11 grain size and an increased grain boundary density]

1 2. (Previously Amended) A resistor having a resistance that can be adjusted by current
2 being passed there through and which is formed as part of a semiconductor device comprising:

3 a polycrystalline silicon resistor formed of on a layer, wherein said polysilicon resistor is
4 formed using a doping wherein said doping has a concentration of less than $\sim 3.75 \times 10^{20} \text{ cm}^{-3}$ and
5 wherein said polycrystalline silicon resistor has at least a first and second order temperature
6 coefficient, wherein the sign of said first and second order temperature coefficients are opposite
7 each other; and

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8 wherein said resistor resistance is electronically trimmed trimmable within a range from
9 60% to 30 % of original value and

10 further wherein said dopant consist essentially of Phosphorus. [doping produces a fine
11 grain size and an increased grain boundary density].

3 - 10. (Cancelled)

1 11. (Amended) A resistor having a resistance that can be adjusted by current being
2 passed there through and which is formed as part of a semiconductor device comprising:

3 a polycrystalline silicon resistor formed of on a layer, wherein said polysilicon resistor is
4 formed using a dopng wherein said doping has a concentration of greater than $\sim 6 \times 10^{19} \text{ cm}^{-3}$ and
5 wherein said polycrystalline silicon resistor has at least a first and second order temperature
6 coefficient, wherein the sign of said first and second order temperature coefficients are opposite
7 each other; and

8 wherein said resistor resistance is electronically trimmed trimmable and

9 further wherein said dopant consist essentially of Phosphorus. [doping produces a fine
10 grain size and an increased grain boundary density]
11

1 12. (Amended) A resistor having a resistance that can be adjusted by current being
2 passed there through and which is formed as part of a semiconductor device comprising:

3 a polycrystalline silicon resistor formed of on a layer, wherein said polysilicon resistor is
4 formed using a late implant doping technique and wherein said polycrystalline silicon resistor

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5 has at least a first and second order temperature coefficient, wherein the sign of said first and
6 second order temperature coefficients are opposite each other, and
7 wherein said resistor resistance is electronically trimmed trimmable and
8 further wherein said dopant consist essentially of Phosphorus. [doping produces a fine
9 grain size and an increased grain boundary density .]

13 - 15. (Cancelled)